

# Effects of Cold on COVID-19 incidence

## Summary

The end of December 2019 was a critical turning point in the global epidemiological concept of a newly discovered type of pneumonia that killed several people within a short period with complications of acute respiratory syndrome just hours after hospitalization. This would later be referred to as the corona virus of 2019. The outbreak was made known to the global health body by Chinese government though with a lot of controversy as regarding the exact time of the infection, mortality and disease incidence among different regions. The world was kept gazing as to what actions were necessary to deal with the epidemic. The world Health Organization was also put into a disarray as to the proper steps and policy issues regarding the declarations of the epidemic as a pandemic. Corona virus disease 2019 remains a threat to the global populations to date 2022. This threat is far from over with still surging cases being reported hence our recent critical look of the literature as regards this infection.

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## Introduction

Corona virus appears like a crown with spikes on the outer surface. The Coronavirus can cause respiratory, gastrointestinal and neurological disease. At the end of December 2019, the Chinese government informed the World Health Organization about an outbreak of a novel coronavirus COVID-19 epidemic in the Chinese city of Wuhan which spread and became a pandemic which posed a global threat. The COVID-19 infected and killed many people in Wuhan according to (Zhu 2019, cited in Czubak et al., 2021). The COVID-19 pandemic causes a sudden increase in hospitalizations of cases with severe acute respiratory syndrome. The COVID -19 and Influenza presents with some similar signs and symptoms which include; fever, chills, cough, shortness of breath or difficulty breathing, fatigue, sore throat, runny or stuffy nose, muscle pain, headache, vomiting and diarrhoea.

The disease is commonly transmitted via direct transmission routes among humans mainly spreading through close contact with an infected person also indirect transmission can occur with contact to infected surfaces or objects and fomites. Vertical transmission between mother to child has also been reported among populations. The main common symptoms of COVID-19 include, fever, sore throat, rhinorrhoea, headache, dry cough and myalgias.<sup>1</sup>

## Cold and covid 19

Studies have reported a strong association between cold season and the increase in COVID-19 cases. A review study that was conducted by Han & Liu (2021) documented that cold food supply chain is a major cause of recurrence and spread of COVID-19.<sup>2</sup> According to Sen Pei, an epidemiologist noted that there are certain reasons to pin down on the suspicion that COVID -19 is sensitive to temperature and other climatic factors. However still, respiratory infections tend to be seasonal with exceptions of the new virus's structure that seems to be sensitive to temperature, humidity, and sunlight.<sup>3</sup>

As of July 19, 2022, the global cases, death and recovery were reported to be 568,659, 447; 6,389,467 and 539,901,330, respectively; Hence COVID - 19 has brought huge economic derailment, social stratification and sudden surge of mortality to global populations.

During the cold summer season, the number of active cases was observed to increase in some East African countries; Eritrea cases surged from 6 to 68 in the months of June 15<sup>TH</sup> to July 18<sup>TH</sup>, 2022. Ethiopia [from 7, 670 to 15,418 cases (May 15 to July 18, 2022)] and Djibouti [from 70 to 74 cases. Peak number of active cases was observed in the months that are relatively cold in Eritrea for instance 798 active cases were in January 20<sup>TH</sup>, 2021 and in Ethiopia about

76,973 cases were reported in January 18<sup>TH</sup>, 2022. In the neighboring Djibouti about 2390 active cases in June 05<sup>th</sup>, 2020.<sup>4</sup> Therefore, the above results indicate that during the summer and rainy seasons in the East African countries Infections like common cold and flu are very common. A study that was conducted by Bukhari et al., (2020) documented an association between COVID-19 increase and low temperature and humidity<sup>5,6</sup> also as documented by UKHSA (2021) an association between COVID-19, cold temperatures and winter weather was reported.

## Conclusion

In conclusion during the cold season the appearance of COVID-19 in association to other respiratory diseases is common in the East African countries. The levels of common seasonal flu like infections remain high. An association of cold season mostly in winter and summer with COVID-19 requires a critical evaluation because of studies with different view point on the same matter.<sup>7,8</sup>

## Acknowledgments

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## Conflicts of interest

The author declares there is no conflict of interest.

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